Validation of Travel Michigan's Rate of Return On Advertising Estimating System – A Case Study Approach

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Introduction

While the often-asked question of what return is realized from advertising investments (a.k.a. ROI) is relatively simple, deriving a reasonably objective and defensible estimate is a complex undertaking. Reasonably good estimates can be derived for a single short term advertising campaign in a specified market (usually small geographically) employing generally accepted conversion study methodologies. Results from even these carefully crafted "experimental designs" are often subjected to influences (e.g., competitors advertising) beyond the researcher's control. Estimating ROI for an extensive advertising campaign involving multi-media, with multiple ads, in multiple markets is an even more complex undertaking. Were one to undertake a totally independent study to assess ROI associated with Travel Michigan's advertising campaign in the three DMAs it targeted in 2003, the cost of such a study would fall within a six figure range; it would be very expensive!

Travel Michigan is interested in validating the process it is using to estimate return to the state in taxes collected by the state for each tax dollar invested in its travel advertising campaign. This state tax return on investment (ROI in this report) is but one measure of the benefits attributed to the campaign. While estimating these many other benefits is important to account for the total benefits associated with the campaign, doing so is beyond the scope of this investigation. However, it is important to keep in mind that the ROI metric reported herein is not the total ROI for the campaign which is certainly far higher were one to include returns beyond simply these occurring to the state treasury. In fact, these other benefits come at no cost so long as the state tax ROI is equal to one or higher.

There are two obvious approaches to validate the ROI measure derived by Travel Michigan. The first approach is to conduct a detailed review of the process it uses beginning with how input data are collected through how they are analyzed. While this approach can be enlightening, it is often limited by lack of total transparency and by a host of details across the process which would require costly replication to totally confirm. The second approach is to conduct an independent ROI study in the same markets at the same time and compare the ROI estimates generated in the two studies. In most cases, this would essentially double the cost and would be prohibitively expensive. Fortunately, however, there were independent studies underway at Michigan State University (MSU) in 2003 which generated the base data needed to estimate tax revenue ROI for Travel Michigan's advertising campaign that year. Unfortunately, these studies ended in 2003, so it is the only year for which comparable ROI measures can be developed

The central study used in developing our ROI estimate is the Certec, Inc. DMA study conducted under contract with Travel Michigan with MSU as a subcontractor. It was designed to be a comprehensive longitudinal tracking study rather than a ROI study per se. But, the study included questions needed to generate the campaign's conversion rate, a primary input for a ROI study.

These are fundamental differences in the set of questions in the survey used by MSU/Certec, Inc. and Longwoods International, the firm Travel Michigan employs to generate the conversion rate it uses in its ROI analysis – Longwoods appears to base its estimates on "lift," the difference in visit rate of those aware and unaware of Travel Michigan advertising. The MSU/Certec, Inc. approach builds on a survey question that directly asks respondents the degree to which Travel Michigan's advertising influenced their decision to visit the state.

There are also fundamental differences in how the surveys were administered. The Longwoods survey is distributed by the mail to members of a consumer panel after the campaign is over. The MSU/Certec, Inc.

survey was administered by telephone to a random sample of households before and after the summer advertising campaign.

Both approaches have been used extensively and are defensible ROI estimating tools. Which of the two yields the most accurate measure of a campaign's conversion rate is an open question; one which may not be subject to a quantitative resolution since the "real" conversion rate in unknown and next to impossible to derive given the many variables involved, many beyond the control of the researcher.

Major Data Inputs and Sources

1. Advertising influence on pleasure travel decisions

In the pre- and post-campaign surveys conducted in the Chicago, Cleveland, and Indianapolis DMAs, we included a question extensively tested in previous conversion studies conducted by Certec, Inc. The question used is reproduced below:

Did the information you saw or heard on Michigan have...

a) A primary influence on your decision to travel to Michigan?
b) A partial influence on your decision to travel to Michigan?
c) No influence on your decision to travel to Michigan?
d) Did not visit Michigan?

Data derived from each DMA were weighted by volume of pleasure trips to Michigan (See point 2 below), and revealed that 5% of travelers from the three DMAs stated that Michigan advertising had a primary influence on their decision to travel to Michigan and 30% indicated that it had a partial influence. It is customary to credit all "primary influence" responses and half of "partial influence" responses to the campaign of focus in conversion studies. Adopting this convention results in the estimate that 20% (5% primary + 30%/2 partial = 20%) of pleasure travel originating in these three DMAs was generated because of Michigan advertising transmitted to respondents. It is probable that other ads promoting Michigan were appearing in these markets in addition to those purchased by Travel Michigan, but a more in-depth study would be required to link the travel decision to a specific ad or advertiser. We did attempt to proportion the Michigan advertising influence between Travel Michigan and other Michigan advertisers, who may have been in the market during the period (summer season) that the surveys were conducted, using estimates from the earlier Certec study. From what we have discerned, Travel Michigan was the dominate Michigan advertiser in each of the markets during this period, but our bottom line estimate will likely still be inflated to the degree that other Michigan advertisers were also engaged in these markets at this time at a level beyond the precision of this estimate.

2. Proportion of Michigan pleasure travel derived from these DMAs

The MSU regional Michigan Travel Market Survey was exercised to reveal that 7.6% of pleasure trips to Michigan originate in the Chicago DMA, 2.8% in the Cleveland DMA and 2.6% in the Indianapolis DMA. Together the three DMAs account for 13% of Michigan's pleasure travel market.

3. Total "influenceable" direct pleasure traveler expenditures in Michigan

The latest[1] Travel Industry of America (TIA) study of domestic US travel indicates that Michigan captured about $12.0 billion in domestic traveler expenditures in 2000. This includes all types of travel some of which are not significantly influenced by advertising, in particular business and visiting friends and relatives (VFR). Again, we were able to draw upon MSU's data to eliminate business travel (9% of Michigan trips) and VFR travel (37% of Michigan trips) to arrive at the estimate that 54% of the $12.0 billion total direct travel expenditures or $6.5 billion is subject to being influenced by advertising. This is somewhat conservative since at least some VFR travel is influenced by advertising. Since VFR travelers spend about 40% less than the average pleasure traveler, total pleasure travel expenditures in Michigan after deducting the VFR and business traveler expenditures were further adjusted to $8.5 billion. Thus, the amount of direct travel expenditures subject to the influence of Michigan travel advertising was estimated to be at least $8.0 billion. The 1995 conversion study for Travel Michigan further enables us to adjust this estimate by the proportion due to Travel Michigan versus the remainder of the Michigan travel industry. This adjustment is 51.5%.

4. State taxes paid by tourists

The majority of direct expenditures by tourists are subject to the 6% state sales or, in the case of lodging, to the use tax. The state collects additional taxes on selected tourist expenditures including gasoline, alcohol and gaming. Businesses and their employees pay additional taxes on money earned from tourists. We estimate that the state collects 10% of tourists' expenditures in the form of the taxes mentioned above.

5. Total impact of tourists' expenditures on the Michigan economy

Out-of-state tourists' expenditures stimulate economic activity as they are re-spent and course through the economy. This is referred to as the multiplier impact. The multiplier impact varies with the type of purchase made, but an average tourist multiplier of 1.5 was used in our analysis. This average multiplier is consistent with results from more data rich and robust analyses that have been performed of tourism's economic impact in Michigan.

6. Level of investment in advertising in the three DMAs

Current media costs for the three DMAs ($2.4 million) were added to advertising production costs of $240,000 (assumed to be 10% of media costs). The earlier research determined that these expenses ($2.64 million) account for 56% of total expenses (advertising, literature, personnel, postage, telephone costs, etc.). Applying this relationship to current data gives a total spending of $4.7 million.

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[1] Since 2000, data available in the Tourism Resource Center's Michigan Travel Activity system point to a probable decline in domestic travel expenditures in Michigan; however, the data suggest that the bulk of the decline is due to business travel while pleasure travel expenditures have been relatively flat since 2000.

Deriving ROI estimates

Four ROI estimates were derived – Net ROI and state tax revenue ROI for both direct expenditures and direct plus indirect (multiplier) expenditures.

1. Net ROI (direct expenditures only)

Total "influenceable" direct expenditures	$8.0 billion
*	*
Three DMA share of above expenditures	13%
*	*
Travel Michigan share of the above expenditures	51.1%
*	*
Percentage of 3 DMA expenditures generated by Michigan travel advertising	20%
	$107.1 million

$107.1 million / $4.7 million spent in three DMAs = Net ROI = $22.79

2. State Tax Revenue ROI (direct expenditures only)

Direct expenditures attributable to Michigan travel advertising in three DMAs	$107.1 million
*	*
State taxes paid on direct expenditures and related business and employee incomes	10%
	$10.7 million

$10.7 million / $4.7 million spent in three DMAs = Tax ROI = $2.28

3. Net ROI (direct plus indirect expenditures)

Net ROI (direct only) * 1.5 = Net direct + indirect ROI

$107.1 million * 1.5 = $160.6 million

or $22.79 * 1.5 = $34.18

4. State Tax Revenue ROI (direct plus indirect expenditures)

Tax ROI (direct only) * 1.5 = Tax direct + indirect ROI

$10.7 million * 1.5 = $16.0 million

or $2.28 * 1.5 = $3.42

Conclusions

Assessing ROI on advertising is inherently a complex undertaking as is amply evident in this case. But when one has access to good data and employs them objectively and in a transparent way, meaningful estimates can be obtained. While it is reasonable to assume that the estimates we obtained are associated with a wide confidence interval, they nonetheless are likely to be adequate for many purposes. Since our procedures, data inputs, and critical assumptions are provided, it would be relatively simple for other analysts to modify our analyses and arrive at their own estimates.

Our analyses reveal the Travel Michigan advertising generated about $107.1 million in direct pleasure traveler expenditures from these three DMAs. One in ten trips from these DMAs would not have been taken to Michigan without the investment made in them promoting travel to Michigan. The direct and indirect (multiplier) benefit to the Michigan economy was estimated to exceed $160 million.

Net ROI is calculated by taking into account both the revenues generated ($107.1 million) and the expenses incurred by Travel Michigan to generate the revenues. The estimate used here is a combination of current advertising media costs and cost relationships determined in an earlier conversion study conducted for Travel Michigan by Certec Inc.

Dividing revenue by spending gives a Net ROI of $22.79 for each $1 invested on advertising.

We also estimate that Travel Michigan advertising in these three DMAs generated over $10 million in state tax revenues from direct traveler expenditures and about $16 million when both direct and indirect impacts are included.

The Tax ROI is calculated by taking into account both the tax revenues generated ($10.7 million) and the expenses incurred by Travel Michigan to generate these tax revenues. The expense estimate derived above, the $4.7 million, is used in this calculation. Dividing tax revenue by spending gives a direct Tax ROI of $2.78. When estimated indirect expenditures are accounted for, the direct plus indirect TAX ROI is estimated to equal $3.42. This indicates that for every dollar spent on the campaign, $3.42 is returned to the state in the form of taxes.

Recognizing that the possible confidence interval for our estimate is wide, even reducing our estimates by 25% would result in favorable ROI estimates. And, since we choose to error on the conservative side throughout our analyses, it is not improbable that our estimates are too low, which would mean that Travel Michigan's advertising is even more productive than we have estimated it to be.

Finally, Travel Michigan's tax return ROI including direct plus indirect expenditures is $3.42, identical to our estimate. This is certainly an unlikely outcome given the marked differences in the two approaches and would unlikely be repeated in other comparative analyses. The importance of this study to validating

Travel Michigan's rate of return on advertising estimating system is not that the results are identical, rather it is that they are comparable even were one to "tweak" some of the data used. Researchers are never comfortable drawing firm conclusions from limited observations, such as here when only comparisons could be made for a single year; however, the work we performed is strong evidence that Travel Michigan's approach to estimating tax return ROI is valid.